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WASTE TO FUEL

Gasification using High Temperature Steam

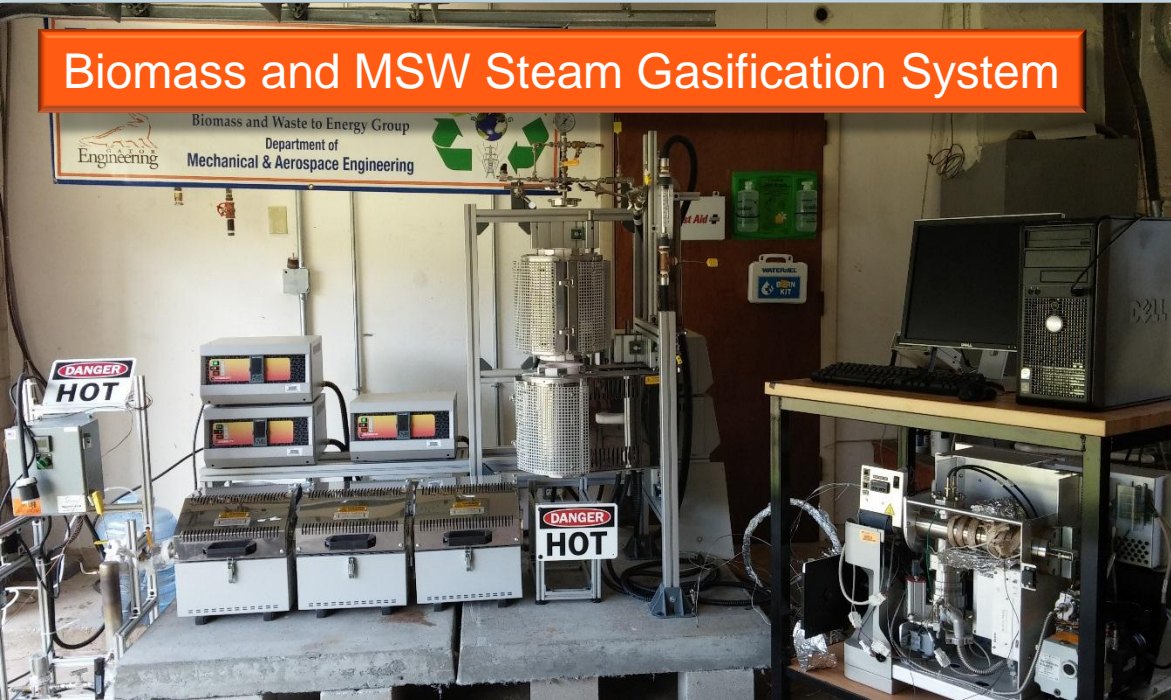
Evaluation and Thermochemical Modeling of High Temperature Steam
Gasification of Municipal Solid Waste (MSW)

University of Florida
Boiling Heat Transfer and Clean Biomass Energy Research Laboratory

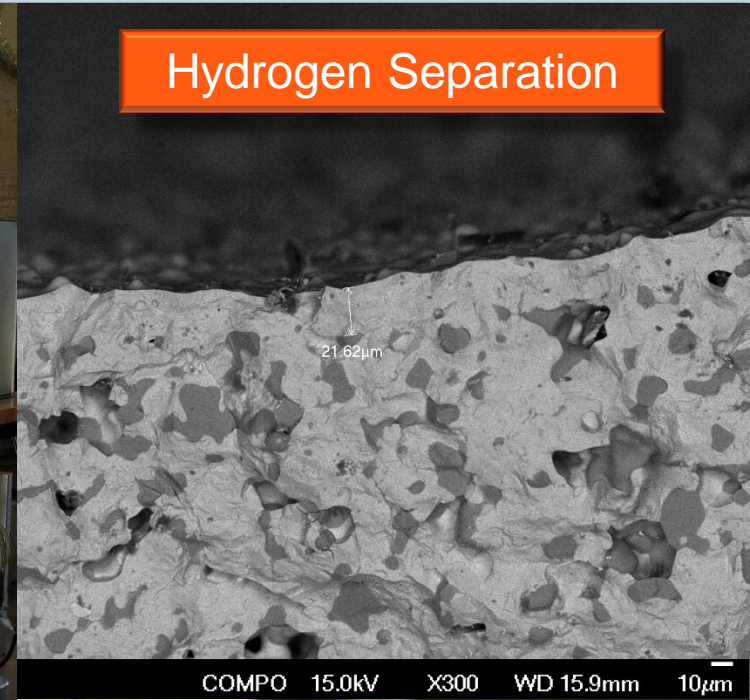
Uisung Lee, Jacob N. Chung, Herbert A. Ingley

Research Fields: Biomass Energy Group at UF

Biomass and MSW Steam Gasification System



Hydrogen Separation

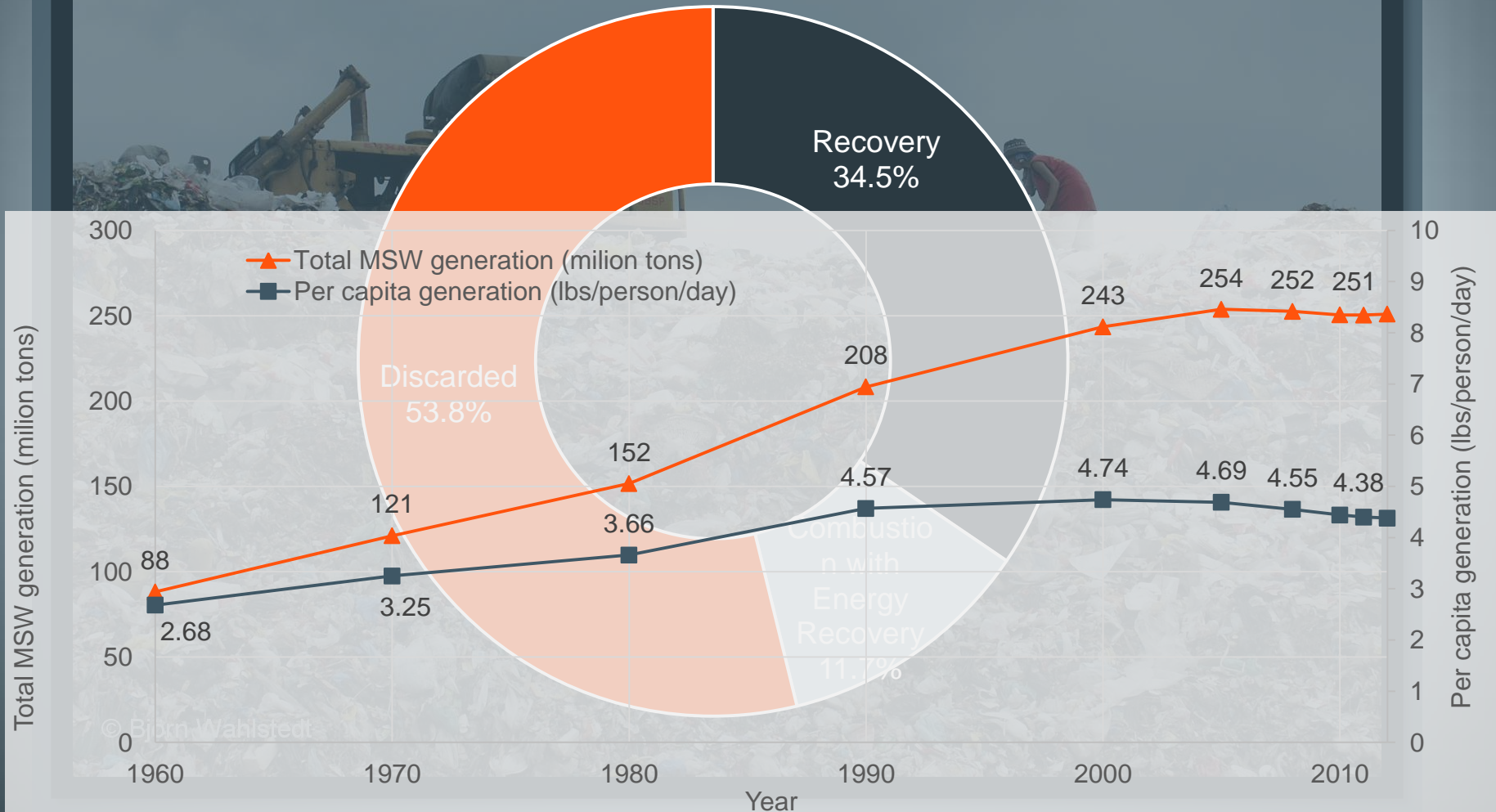


F-T Reaction



Municipal Solid Waste (MSW)

Landfilled waste : 53.8% (2012, EPA)



Gasification

Energy conversion process

- a process that converts organic or fossil based carb...

Generator



Electricity

**Hydrogen
Membrane
Separator**



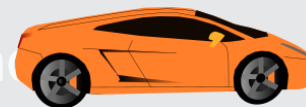
**pure
Hydrogen**

**Fischer-
Tropsch
Reactor**



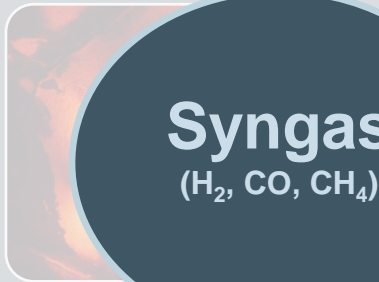
Biodiesel

**Gas turbine
or IC engine**

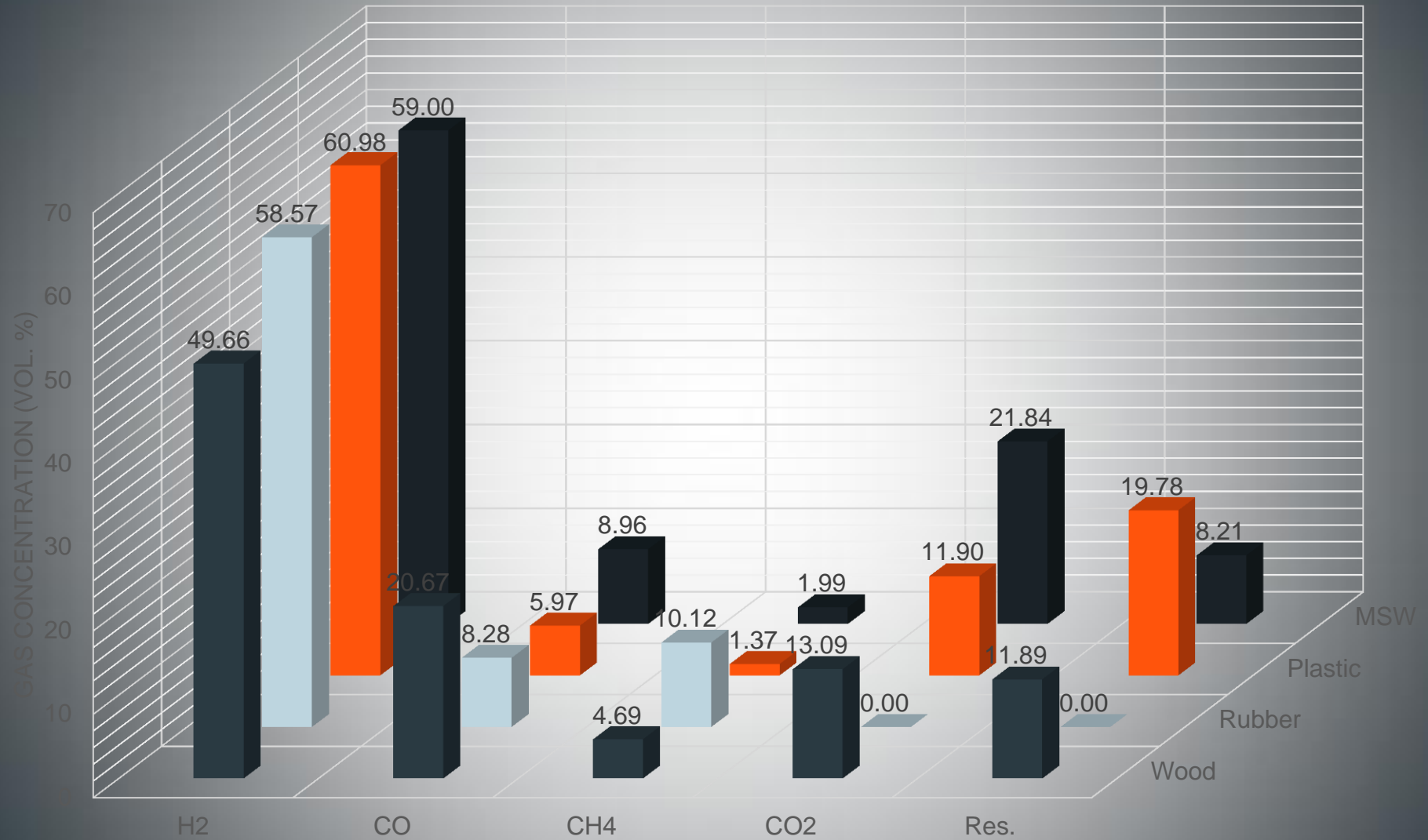


**Mechanical
work**

Syngas
(H_2 , CO , CH_4)



Why Steam?



No CO₂ data due to GC problem, for rubber



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The End

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